Service Schematics

NOKIA 6131/6133

RM-115

NOKIA 6133/6126

RM-126

Introduction

IMPORTANT:

This document is intended for use by authorized NOKIA service centers only.

"Service Schematics" was created with focus on customer care.
The purpose of this document is to provide further technical repair information for NOKIA mobile phones on Level 3/4 service activities.
It contains additional information such as e.g. "Component finder", "Frequency band table" or "Antenna switch table".
The "Signal overview" page gives a good and fast overview about the most important signals and voltages on board.
Saving process time and improving the repair quality is the aim of this document.
It is to be used additionally to the service manual and other training or service information such as Service Bulletins.

All measurements were made using following equipment:

Nokia repair SW	:	Phoenix version 2006.04.6.130
Oscilloscope	:	Fluke PM 3380A/B
Spectrum Analyzer	:	Advantest R3162 with an analog probe
RF-Generator / GSM Tester	:	Rhode & Schwarz CMU 200
Multimeter	:	Fluke 73 Series II

While every endeavour has been made to ensure the accuracy of this document, some errors may exist. If the reader finds any errors, NOKIA shall be notified in writing.

Please send E-Mail to: training.sace@nokia.com




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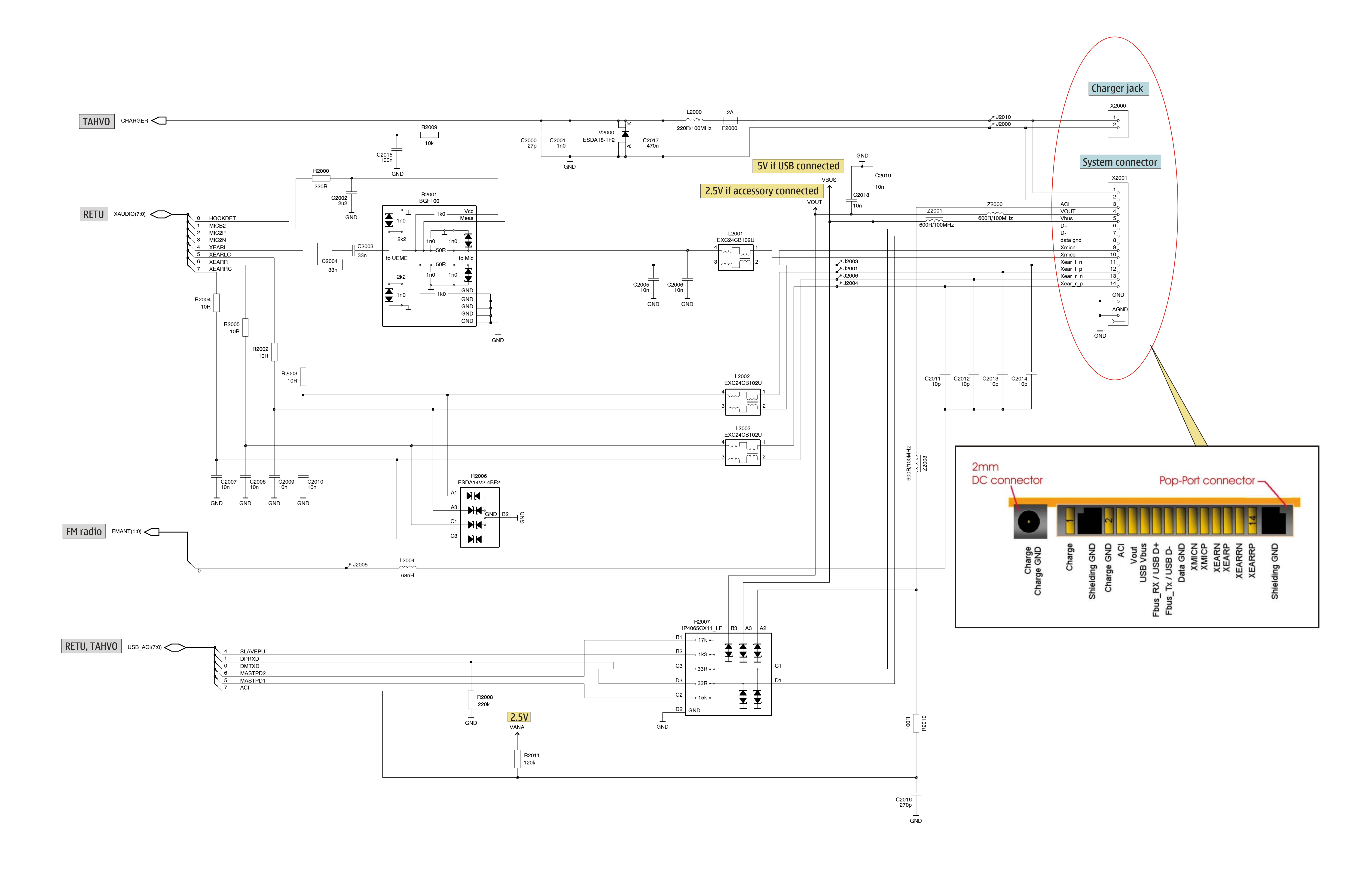
Exploded view and component disposal

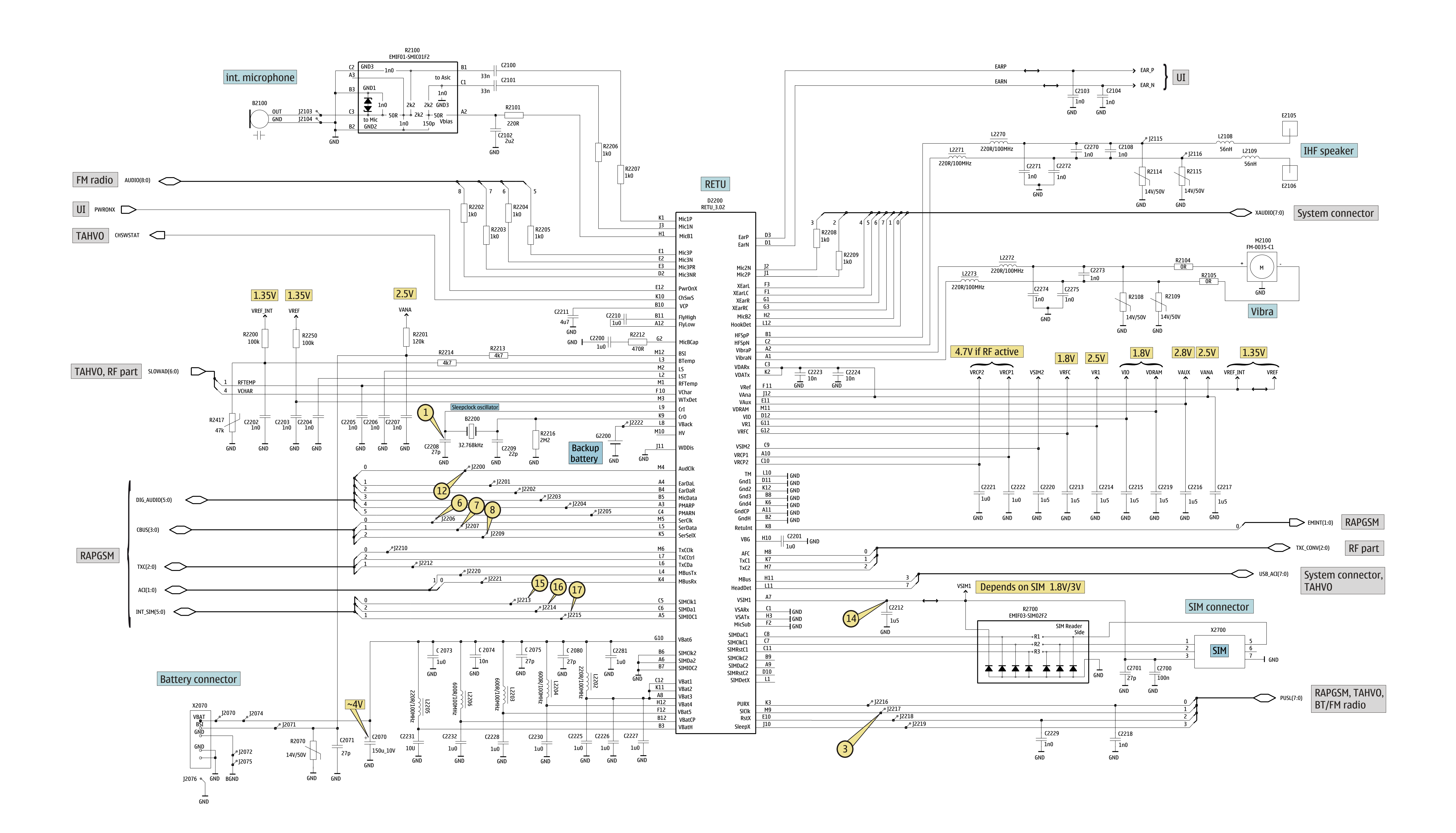
6131 RM-115 Exploded view

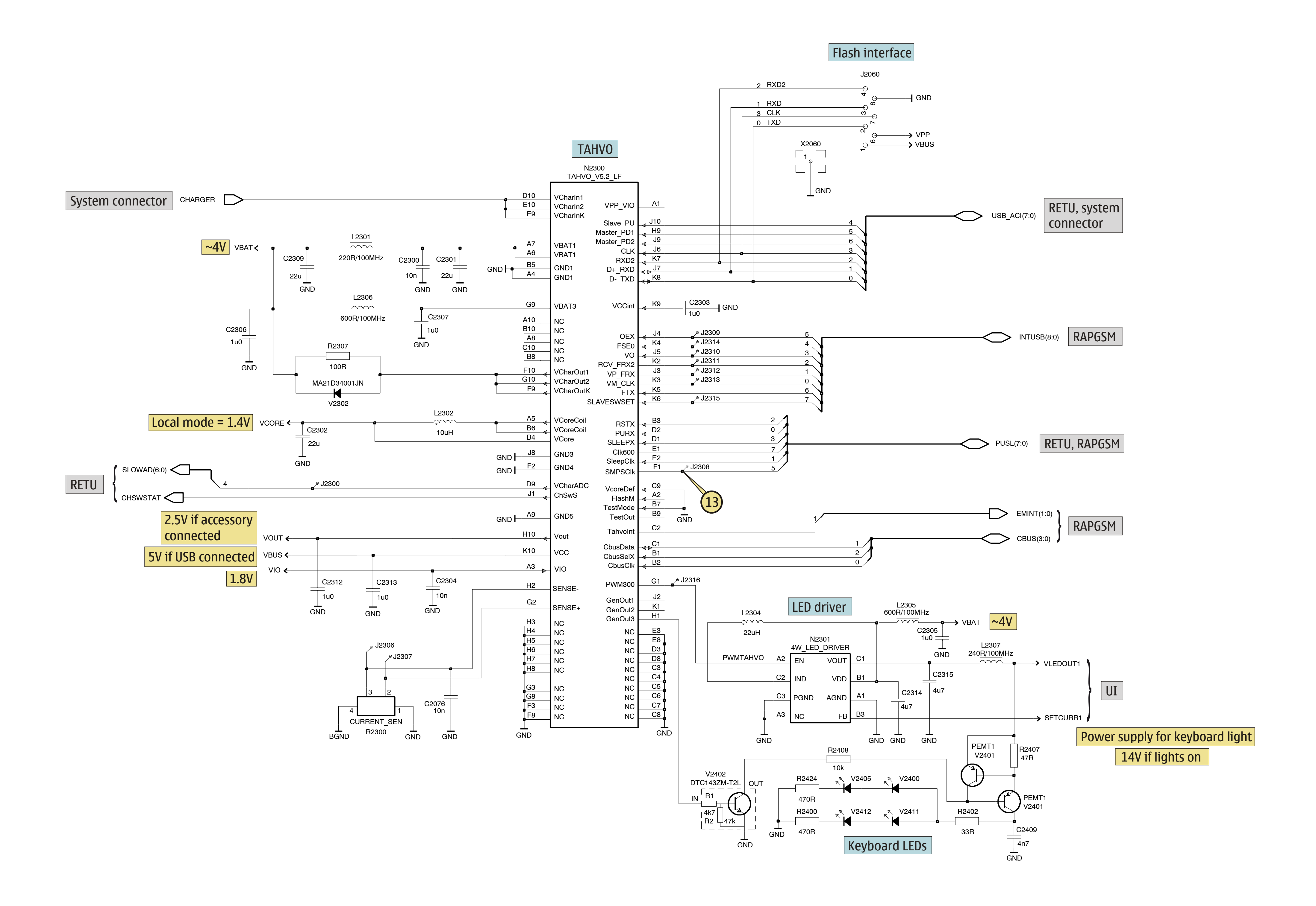
A-COVER **(A5)** * I015
FRONT DISPLAY GASKET **(A5)** I017
NAPA DISPLAY SMALL **(A3)** * I012
LCD PWB **(A4)** * I013
NAPA DISPLAY MAIN **(A3)** * I011
EARPIECE INCL. ADHESIVE **(A2)** I009
EARPIECE GASKET **(A2)** I008
B-COVER **(A2)** * I005
RUBBER STOPPER LEFT **(A1)** I002
DISPLAY BEZEL I001
RUBBER STOPPER RIGHT **(A1)** I003
C-COVER ASSEMBLY **(A1)** I203
KEYMAT I204
DOMESHEET **(A6)** I207
SCREW M1.6 x 5.5 T6P I205
ENGINE BOARD **(A6)** (NOT SUPPLIED) I208
SHIELDING LID RETU/TAHVO **(A6)** I210
SHIELDING LID RF **(A6)** I211
VOLUME BUTTON (COSMETIC PART) **(A7)** I218
IRDA WINDOW **(A7)** * I216
ANTENNA MODULE **(A9)** * I226
IHF SPEAKER **(A9)** * I227
D-COVER ASSY **(A7)** * I214
FUNCTION KEY /POWER KEY **(A7)** I219
TYPE LABEL (LEVEL 3/4 ONLY) I213
BATTERY SPRING **(A7)** I223
E-COVER **(A10)** * I228
VOLUME KEY **(A7)** I217
CAMERA GASKET **(A5)** I016
FLEX CABLE **(A1)** I104
CAMERA ASSEMBLY I010
HWA DRIVER LID **(A4)** I014
MAGNET **(A2)** I006 *
CAMERA/HINGE GROUNDING CLIP **(A2)** I007 *
HINGE MODULE **(A2)** I004 *
HINGE CAP LEFT **(A1)** I101
PUSH TO OPEN BUTTON **(A1)** I103
GROUND PAD HINGE (stuck on C-COVER) **(A1)** I202
HINGE CAP RIGHT **(A1)** I102
C-COVER MIC RUBBER **(A1)** I201
L-Adhesive-Foam **(A1)** I106
SHIELDING LID BT/FM RADIO **(A6)** I206
SHIELDING LID RAP GSM **(A6)** I209
SIM SUPPORT LID **(A6)** I212
MICROPHONE **(A8)** I225
BLUETOOTH ANTENNA **(A8)** I224 *
DC JACK **(A7)** I222
SIM CARD FLAP **(A7)** I215 *
POWER BUTTON (COSMETIC PART) **(A7)** I221
FUNCTION BUTTON (COSMETIC PART) **(A7)** I220
SCREW M1.4 x 7 T5P I105
FLAP ASSY AND PLATE **(A10)** I229 *

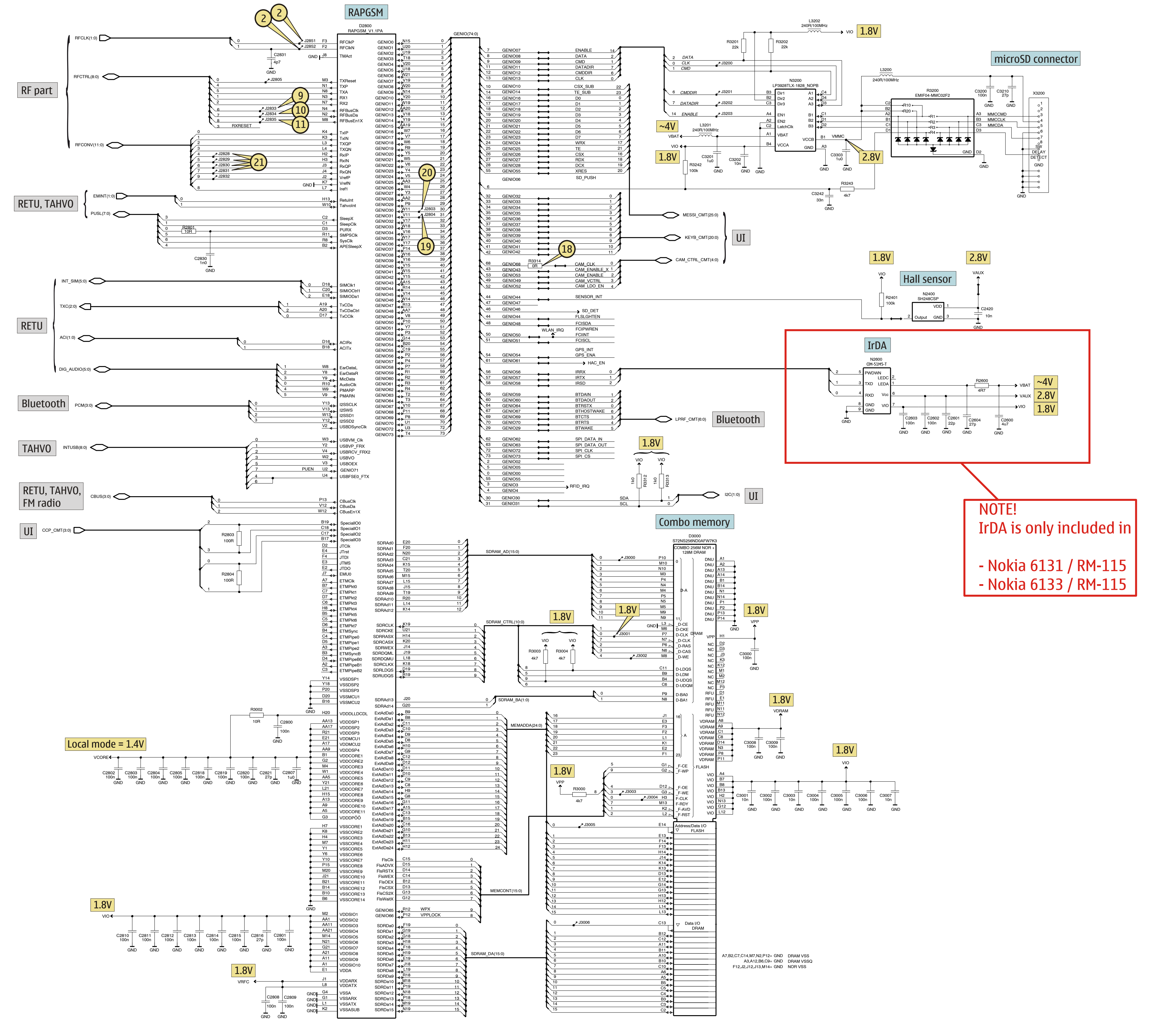
A1 = B-C-COVER ASSY INCL. A2
A2 = B-COVER ASSY
A3 = NAPA DISPLAY ASSY
A4 = LCD PWB ASSY
A5 = A-COVER ASSY
A6 = 1 OA ENGINE MODULE ASSY
A7 = D-COVER ASSY
A8 = BLUETOOTH ANTENNA ASSY
A9 = ANTENNA MOdule ASSY
A10= E-COVER ASSY
* = only available as assembly

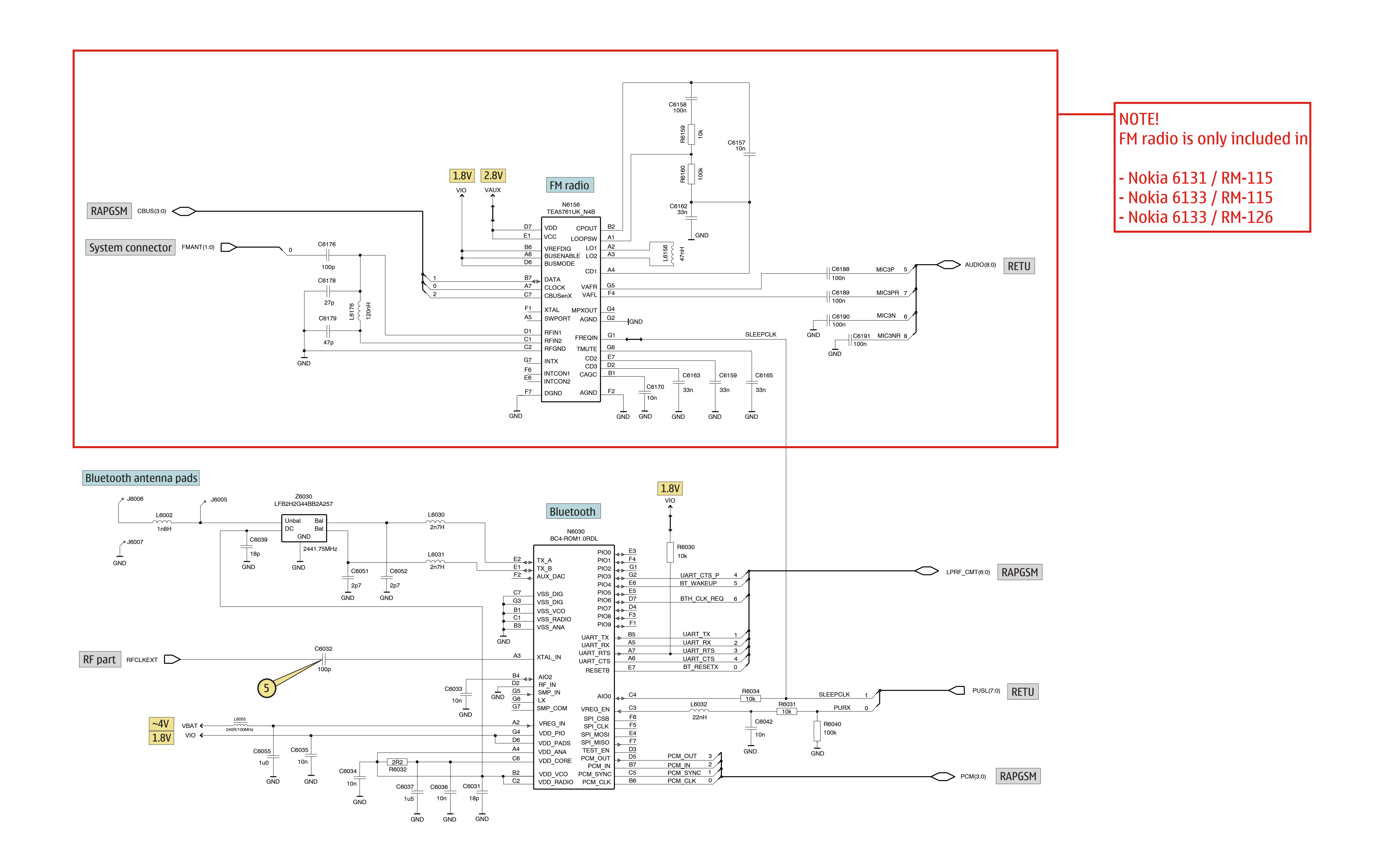
Ver. 1.0 ELECTRO SILICON METAL PLASTIC PWB COVER


Charger jack
System connector
TAHVO
CHARGER
RETU
XAUDIO(7:0)
FM radio
FMANT(1:0)
RETU, TAHVO
USB_ACI(7:0)
5V if USB connected
2.5V if accessory connected
2.5V
VANA
VBUS
VOUT
2mm
DC connector
Pop-Port connector
Charge
Charge GND
Charge
Shielding GND
Charge GND
ACI
Vout
USB Vbus
Fbus_RX / USB D+
Fbus_Tx / USB D-
Data GND
XMICN
XMICP
XEARN
XEARP
XEARRN
XEARRP
Shielding GND


int. microphone
FM radio
UI
TAHVO
TAHVO, RF part
RAPGSM
Battery connector
RETU
D2200
RETU_3.02
Backup battery
Sleepclock oscillator
System connector
IHF speaker
Vibra
4.7V if RF active
1.8V
2.5V
2.8V
1.35V
Depends on SIM 1.8V/3V
SIM connector
SIM
RF part
System connector, TAHVO
RAPGSM, TAHVO, BT/FM radio
~4V

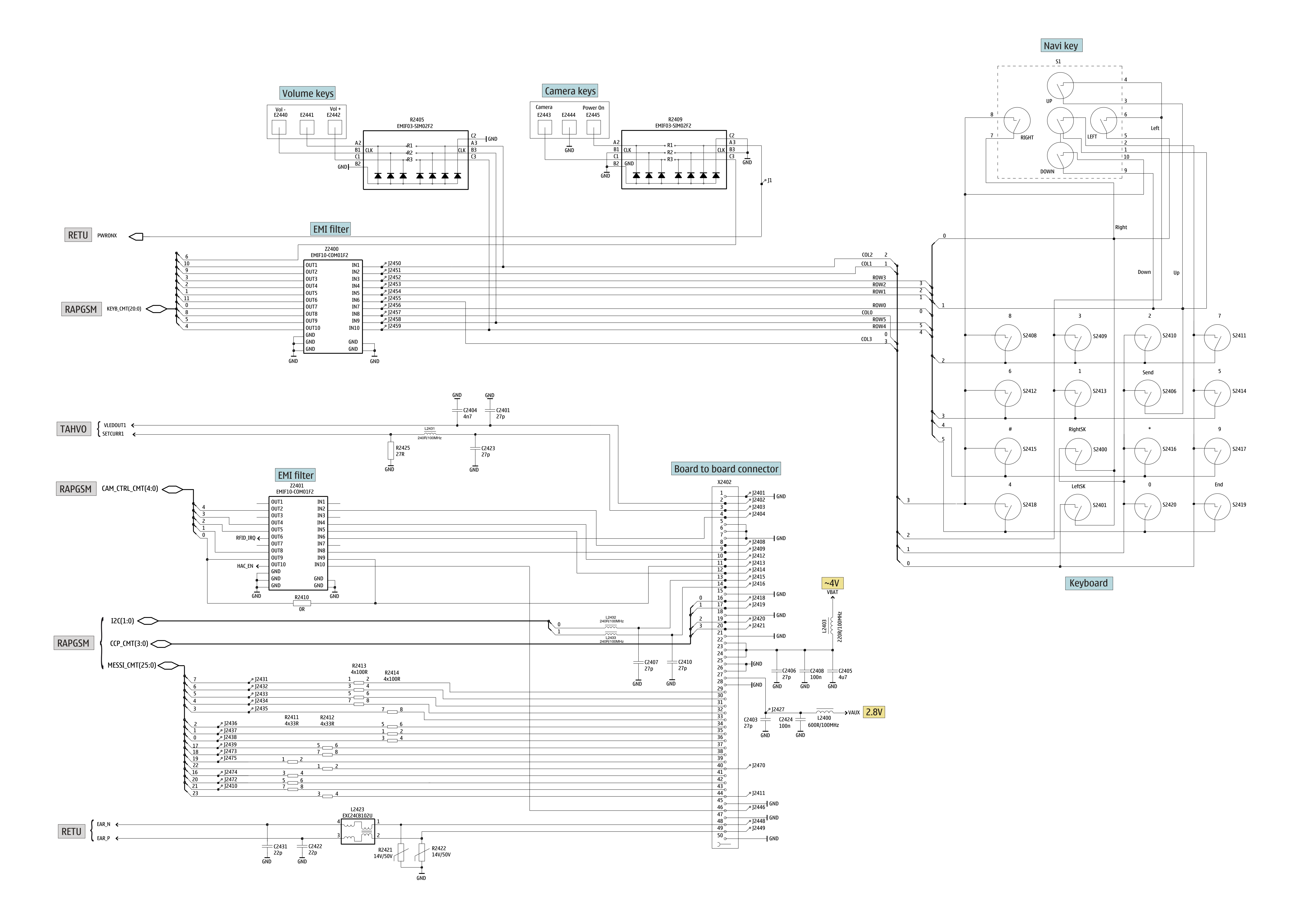

Flash interface
TAHVO
N2300
TAHVO_V5.2_LF
System connector
CHARGER
RETU, system connector
USB_ACI(7:0)
~4V
VBAT
RAPGSM
INTUSB(8:0)
Local mode = 1.4V
VCORE
RETU, RAPGSM
PUSL(7:0)
RETU
SLOWAD(6:0)
CHSWSTAT
2.5V if accessory connected
VOUT
5V if USB connected
VBUS
1.8V
VIO
EMINT(1:0)
CBUS(3:0)
CURRENT_SEN
R2300
LED driver
N2301
4W_LED_DRIVER
VLEDOUT1
SETCURR1
UI
Power supply for keyboard light
14V if lights on
Keyboard LEDs
13

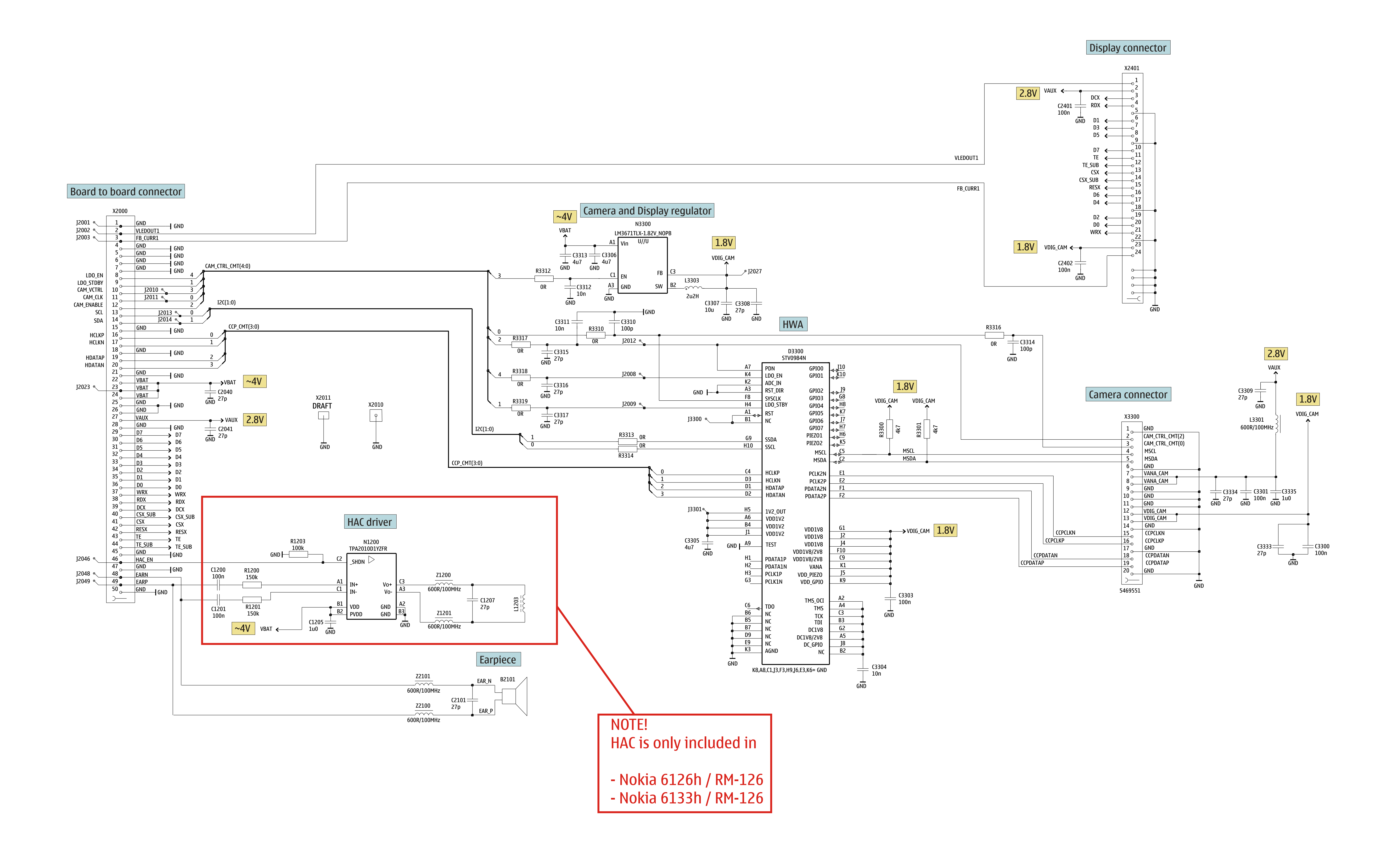

RAPGSM
RF part
RETU, TAHVO
RETU
Bluetooth
TAHVO
RETU, TAHVO, FM radio
UI
Local mode = 1.4V
1.8V
microSD connector
~4V
2.8V
UI
Hall sensor
IrDA
Bluetooth
Combo memory
NOTE!
IrDA is only included in
- Nokia 6131 / RM-115
- Nokia 6133 / RM-115

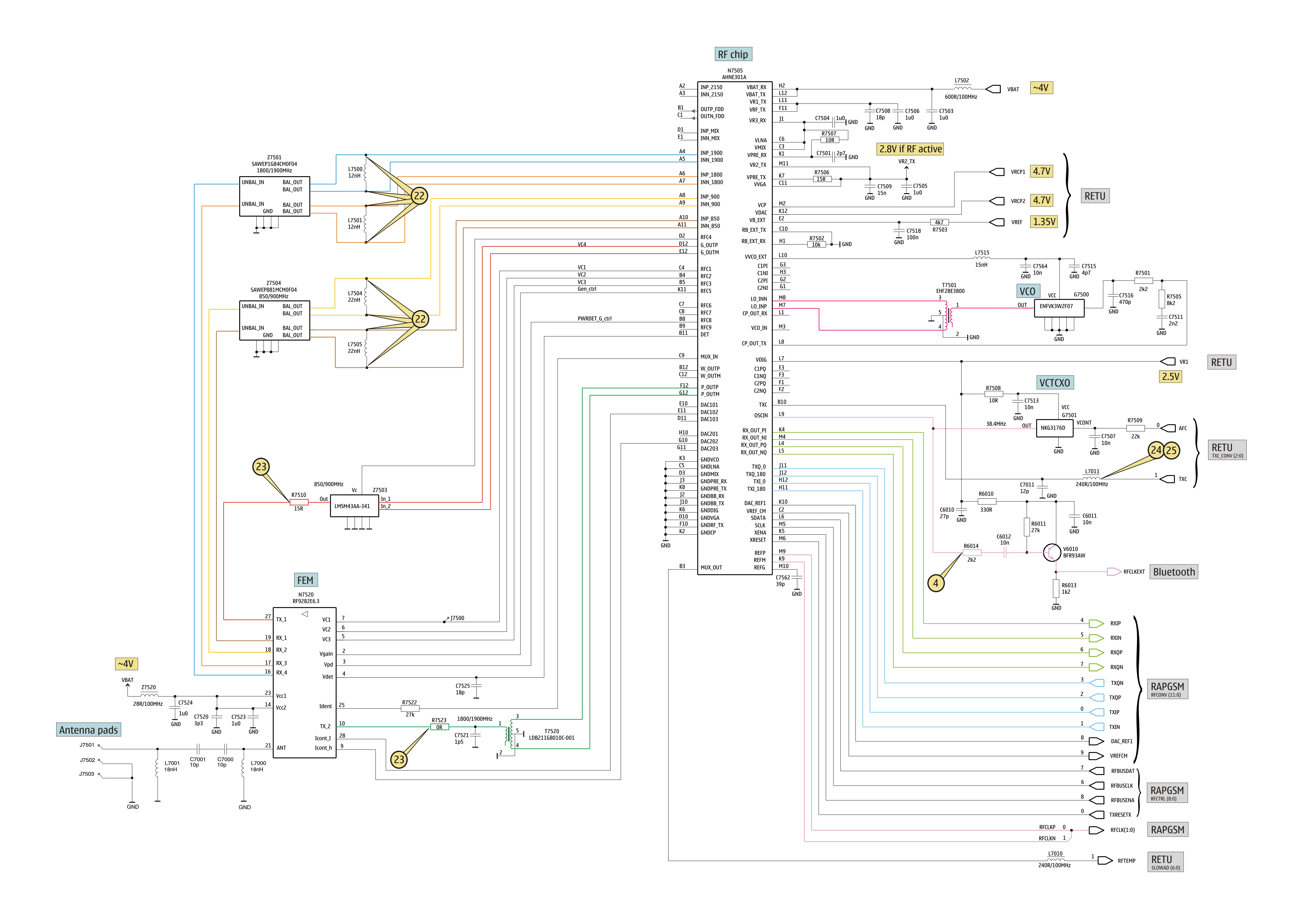


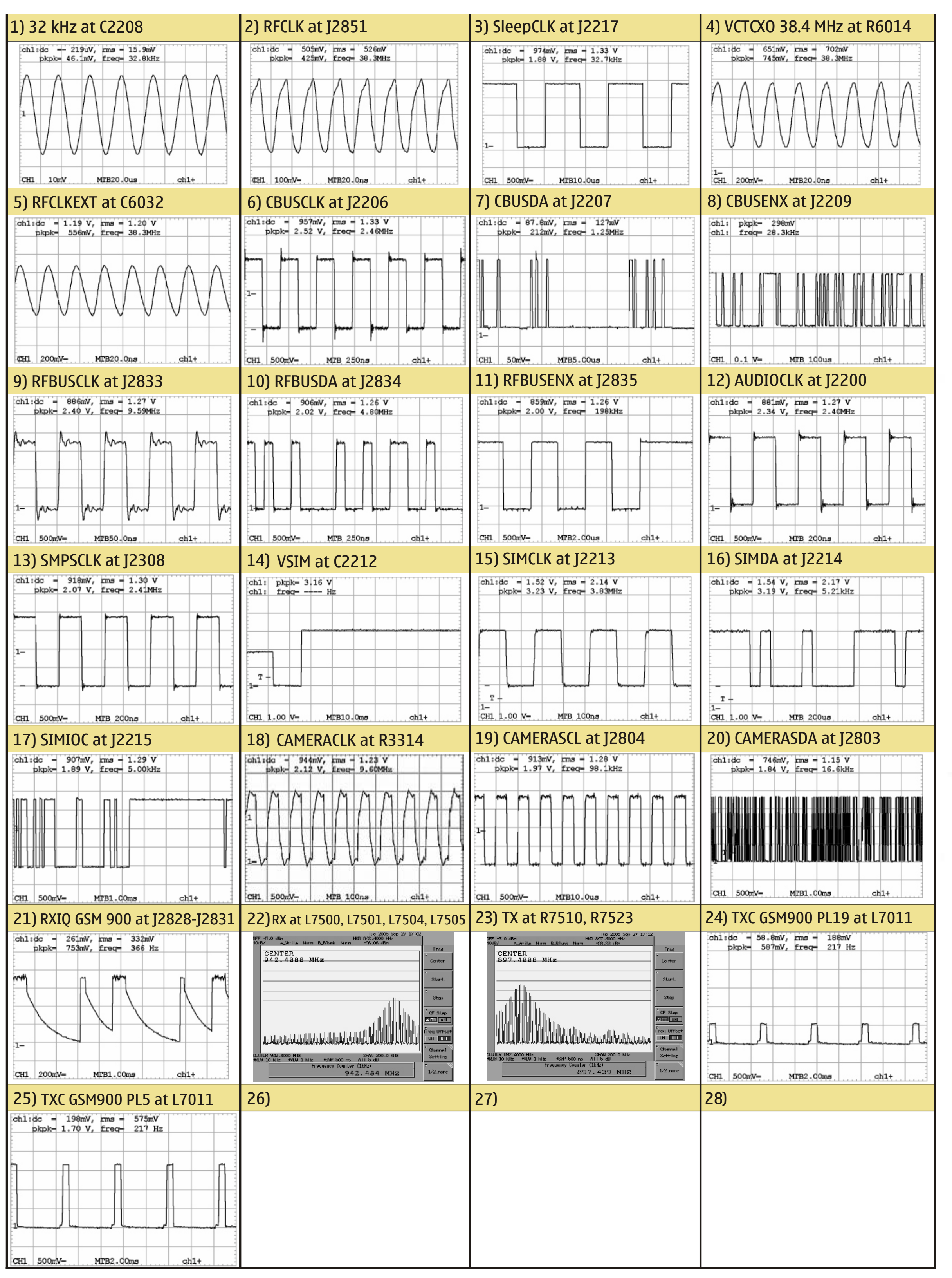
NOTE!
FM radio is only included in

- Nokia 6131 / RM-115
- Nokia 6133 / RM-115
- Nokia 6133 / RM-126


Navi key
Volume keys
Camera keys
EMI filter
RETU
RAPGSM
TAHVO
EMI filter
Board to board connector
RAPGSM
RAPGSM
RETU
Keyboard
~4V
2.8V
R2405
EMIF03-SIM02F2
R2409
EMIF03-SIM02F2
Z2400
EMIF10-COM01F2
Z2401
EMIF10-COM01F2
X2402
PWRONX
KEYB_CMT(20:0)
VLEDOUT1
SETCURR1
CAM_CTRL_CMT(4:0)
I2C(1:0)
CCP_CMT(3:0)
MESSI_CMT(25:0)
EAR_N
EAR_P
L2423
EXC24CB102U
VBAT
VAUX

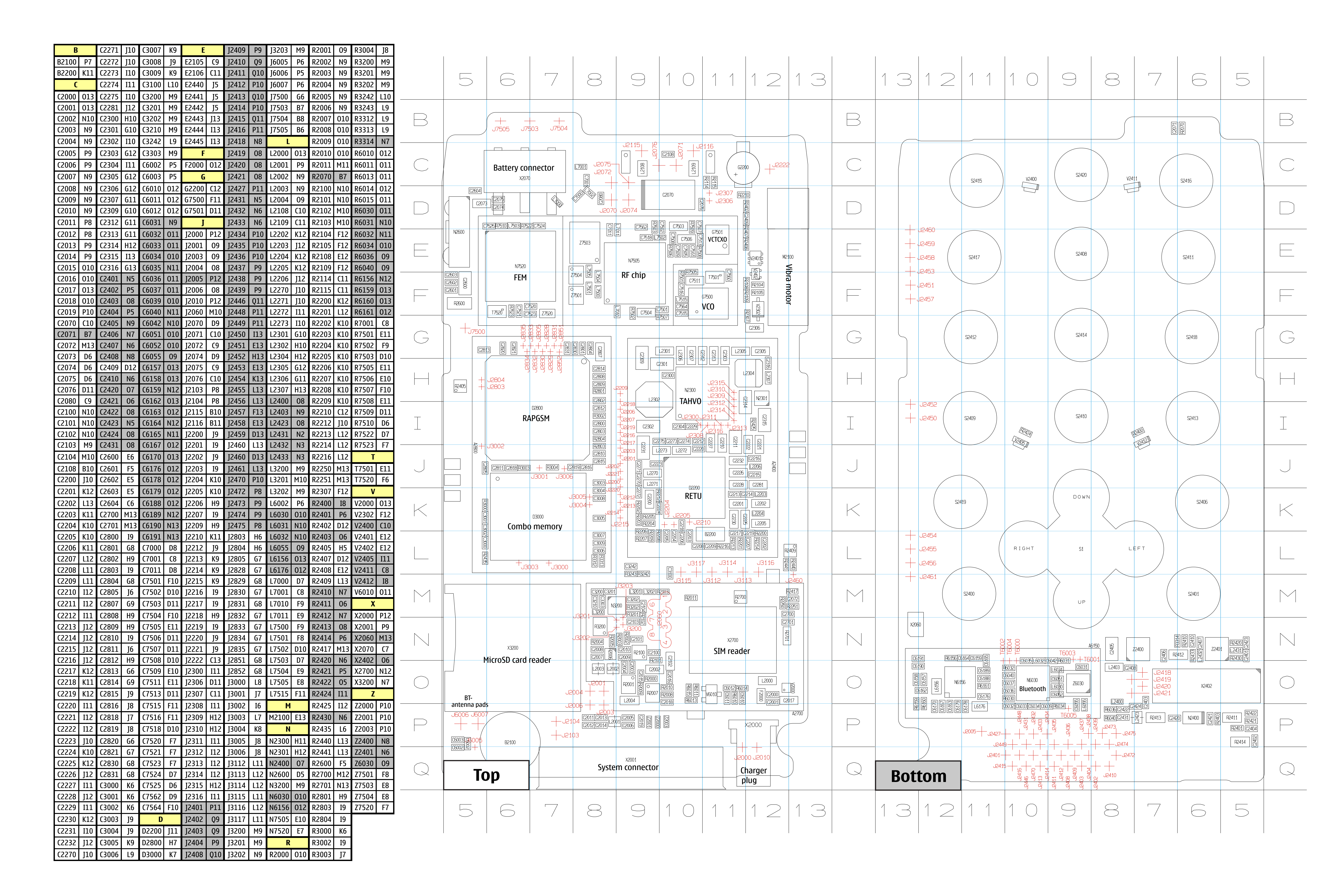

Display connector
Board to board connector
Camera and Display regulator
HWA
Camera connector
HAC driver
Earpiece
NOTE!
HAC is only included in
- Nokia 6126h / RM-126
- Nokia 6133h / RM-126

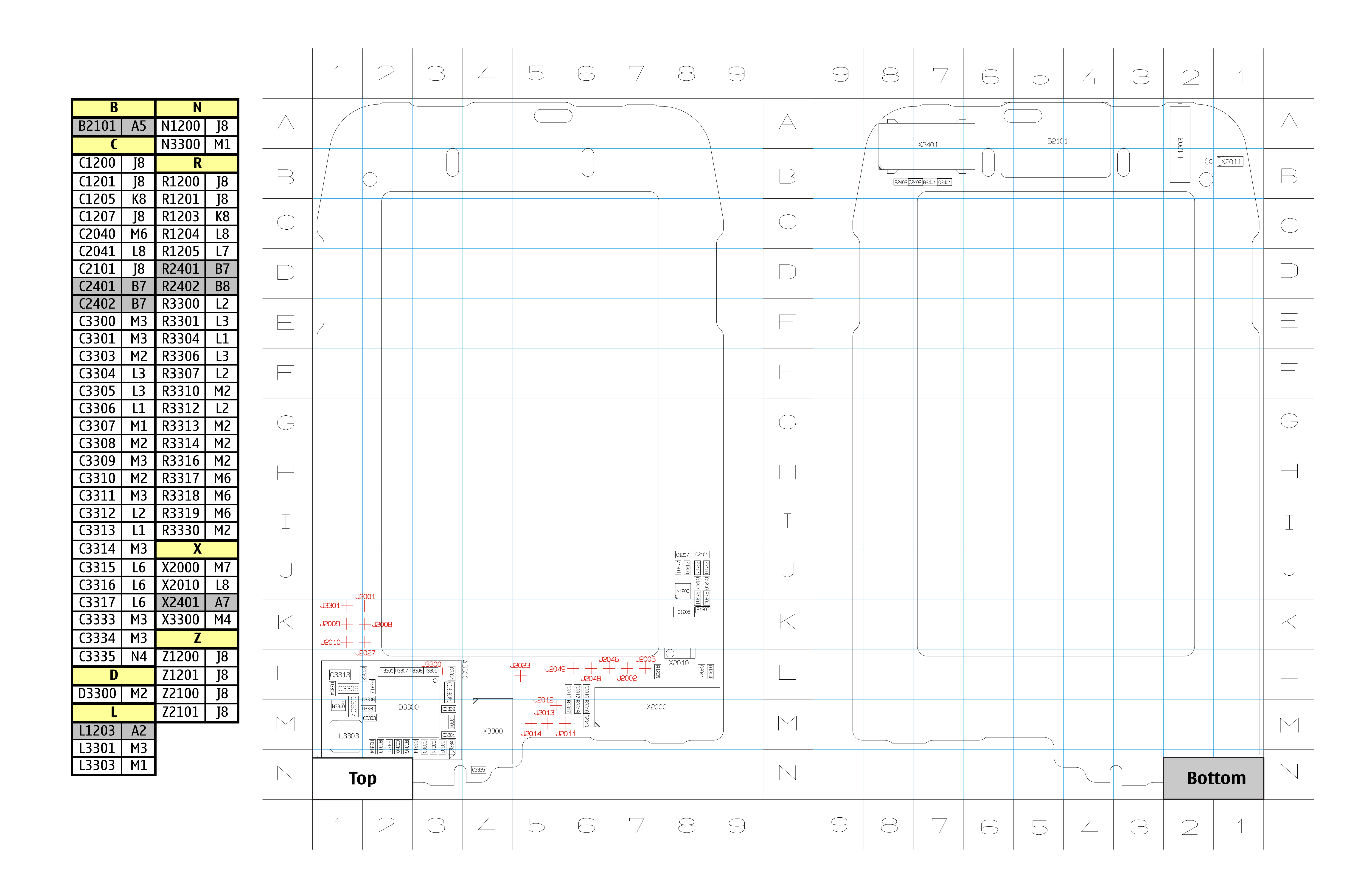

RF chip
N7505
AHNE301A
~4V
VBAT
L7502
600R/100MHz
2.8V if RF active
VRCP1
4.7V
VRCP2
4.7V
VREF
1.35V
RETU
VCO
T7501
EHF2BE3800
G7500
ENFVK3W2F07
VR1
RETU
2.5V
VCTCXO
G7501
NKG3176D
38.4MHz
AFC
RETU
TXC_CONV (2:0)
TXC
L7011
240R/100MHz
V6010
BFR93AW
RFCLKEXT
Bluetooth
Z7501
SAWEP1G84CM0F04
1800/1900MHz
Z7504
SAWEP881MCM0F04
850/900MHz
L7500
12nH
L7501
12nH
L7504
22nH
L7505
22nH
22
23
24
25
4
850/900MHz
Z7503
LMSM43AA-341
R7510
15R
FEM
N7520
RF9282E6.3
~4V
VBAT
Z7520
28R/100MHz
Antenna pads
J7501
J7502
J7503
L7001
18nH
C7001
10p
C7000
10p
L7000
18nH
GND
R7522
27k
R7523
0R
1800/1900MHz
T7520
LDB211G8010C-001
RXIP
RXIN
RXQP
RXQN
TXQN
TXQP
TXIP
TXIN
DAC_REF1
VREFCM
RAPGSM
RFCONV (11:0)
RFBUSDAT
RFBUSCLK
RFBUSENA
TXRESETX
RAPGSM
RFCTRL (8:0)
RFCLKP
RFCLKN
RFCLK(1:0)
RAPGSM
L7010
240R/100MHz
RFTEMP
RETU
SLOWAD (6:0)



VBAT 4V
VREF 1.35V
VBAT_PA 4V
VOUT 2.5V
VBUS 5V
VLEDOUT1 14V
VCORE 1.4V
VRCP1 4.7V
VRCP2 4.7V
VAUX 2.8V
VSIM2 1.8/3V
VIO 1.8V
VRFC 1.8V
VR1 2.5V
VANA 2.5V
VDRAM 1.8V
VSIM1 1.8V/3V
VMMC 2.8V

B		C2271	J10	C3007	K9	**E**		J2409	P9	J3203	M9	R2001	O9	R3004	J8
B2100	P7	C2272	J10	C3008	J9	E2105	C9	J2410	Q9	J6005	P6	R2002	N9	R3200	M9
B2200	K11	C2273	I10	C3009	K9	E2106	C11	J2411	Q10	J6006	P5	R2003	N9	R3201	M9
C		C2274	I11	C3100	L10	E2440	J5	J2412	P10	J6007	P6	R2004	N9	R3202	M9
C2000	O13	C2275	I10	C3200	M9	E2441	J5	J2413	Q10	J7500	G6	R2005	N9	R3242	L10
C2001	O13	C2281	J12	C3201	M9	E2442	J5	J2414	P10	J7503	B7	R2006	N9	R3243	L9
C2002	N10	C2300	H10	C3202	M9	E2443	J13	J2415	Q11	J7504	B8	R2007	O10	R3312	L9
C2003	N9	C2301	G10	C3210	M9	E2444	I13	J2416	P11	J7505	B6	R2008	O10	R3313	L9
C2004	N9	C2302	I10	C3242	L9	E2445	I13	J2418	N8	**L**		R2009	O10	R3314	N7
C2005	P9	C2303	G12	C3303	M9	**F**		J2419	O8	L2000	O13	R2010	O10	R6010	O12
C2006	P9	C2304	I11	C6002	P5	F2000	O12	J2420	O8	L2001	P9	R2011	M11	R6011	O11
C2007	N9	C2305	G12	C6003	P5	**G**		J2421	O8	L2002	N9	R2070	B7	R6013	O11
C2008	N9	C2306	G12	C6010	O12	G2200	C12	J2427	P11	L2003	N9	R2100	N10	R6014	O12
C2009	N9	C2307	G11	C6011	O12	G7500	F11	J2431	N5	L2004	O9	R2101	N10	R6015	O11
C2010	N9	C2309	G10	C6012	O12	G7501	D11	J2432	N6	L2108	C10	R2102	M10	R6030	O11
C2011	P8	C2312	G11	C6031	N9	**J**		J2433	N6	L2109	C11	R2103	M10	R6031	N10
C2012	P8	C2313	G11	C6032	O11	J2000	P12	J2434	P10	L2202	K12	R2104	F12	R6032	N11
C2013	P9	C2314	H12	C6033	O11	J2001	O9	J2435	P10	L2203	J12	R2105	F12	R6034	O10
C2014	P9	C2315	I13	C6034	O10	J2003	O9	J2436	P10	L2204	K12	R2108	E12	R6036	O9
C2015	O10	C2316	G13	C6035	N11	J2004	O8	J2437	P9	L2205	K12	R2109	F12	R6040	O9
C2016	O10	C2401	N5	C6036	O11	J2005	P12	J2438	P9	L2206	J12	R2114	C11	R6156	N12
C2017	O13	C2402	P5	C6037	O11	J2006	O8	J2439	P9	L2270	J10	R2115	C11	R6159	O13
C2018	O10	C2403	O8	C6039	O10	J2010	P12	J2446	Q11	L2271	J10	R2200	K12	R6160	O13
C2019	P10	C2404	P5	C6040	N11	J2060	M10	J2448	P11	L2272	I11	R2201	L12	R6161	O12
C2070	C10	C2405	N9	C6042	N10	J2070	D9	J2449	P11	L2273	I10	R2202	K10	R7001	C8
C2071	B7	C2406	N7	C6051	O10	J2071	C10	J2450	I13	L2301	G10	R2203	K10	R7501	E11
C2072	M13	C2407	N6	C6052	O10	J2072	C9	J2451	E13	L2302	H10	R2204	K10	R7502	F9
C2073	D6	C2408	N8	C6055	O9	J2074	D9	J2452	H13	L2304	H12	R2205	K10	R7503	D10
C2074	D6	C2409	D12	C6157	O13	J2075	C9	J2453	E13	L2305	G12	R2206	K10	R7505	E11
C2075	D6	C2410	N6	C6158	O13	J2076	C10	J2454	K13	L2306	G11	R2207	K10	R7506	E10
C2076	D11	C2420	O7	C6159	N12	J2103	P8	J2455	L13	L2307	H13	R2208	K10	R7507	F10
C2080	C9	C2421	O6	C6162	O13	J2104	P8	J2456	L13	L2400	O8	R2209	K10	R7508	E11
C2100	N10	C2422	O8	C6163	O12	J2115	B10	J2457	F13	L2403	N9	R2210	C12	R7509	D11
C2101	N10	C2423	N5	C6164	N12	J2116	B11	J2458	E13	L2423	O8	R2212	J10	R7510	D6
C2102	N10	C2424	O8	C6165	N11	J2200	J9	J2459	D13	L2431	N2	R2213	L12	R7522	D7
C2103	M9	C2431	O8	C6167	O12	J2201	I9	J2460	L13	L2432	N3	R2214	L12	R7523	F7
C2104	M10	C2600	E6	C6170	O13	J2202	J9	J2460	D13	L2433	N3	R2216	L12	**T**	
C2108	B10	C2601	F5	C6176	O12	J2203	I9	J2461	L13	L3200	M9	R2250	M13	T7501	E11
C2200	J10	C2602	E5	C6178	O12	J2204	K10	J2470	P10	L3201	M10	R2251	M13	T7520	F6
C2201	K12	C2603	E5	C6179	O12	J2205	K10	J2472	P8	L3202	M9	R2307	F12	**V**	
C2202	L13	C2604	C6	C6188	O12	J2206	H9	J2473	P9	L6002	P6	R2400	I8	V2000	O13
C2203	K11	C2700	M13	C6189	N12	J2207	I9	J2474	P9	L6030	O10	R2401	P6	V2302	F12
C2204	K10	C2701	M13	C6190	N13	J2209	H9	J2475	P8	L6031	N10	R2402	D12	V2400	C10
C2205	K10	C2800	I9	C6191	N13	J2210	K11	J2803	H6	L6032	N10	R2403	O6	V2401	E12
C2206	K11	C2801	G8	C7000	D8	J2212	J9	J2804	H6	L6055	O9	R2405	H5	V2402	E12
C2207	L12	C2802	H9	C7001	C8	J2213	K9	J2805	G7	L6156	O13	R2407	D12	V2405	I11
C2208	L11	C2803	I9	C7011	D8	J2214	K9	J2828	G7	L6176	O12	R2408	E12	V2411	C8
C2209	L11	C2804	G8	C7501	F10	J2215	K9	J2829	G8	L7000	D7	R2409	L13	V2412	I8
C2210	I12	C2805	J6	C7502	D10	J2216	I9	J2830	G7	L7001	C8	R2410	N7	V6010	O11
C2211	I12	C2807	G9	C7503	D11	J2217	I9	J2831	G8	L7010	F9	R2411	O6	**X**	
C2212	I11	C2808	H9	C7504	F10	J2218	H9	J2832	G7	L7011	E9	R2412	N7	X2000	P12
C2213	J12	C2809	H9	C7505	E11	J2219	I9	J2833	G7	L7500	F9	R2413	O8	X2001	P9
C2214	J12	C2810	I9	C7506	D11	J2220	J9	J2834	G7	L7501	F8	R2414	P6	X2060	M13
C2215	J12	C2811	J6	C7507	D11	J2221	J9	J2835	G7	L7502	D10	R2417	M13	X2070	C7
C2216	J12	C2812	H9	C7508	D10	J2222	C13	J2851	G8	L7503	D7	R2420	N6	X2402	O6
C2217	K12	C2813	G6	C7509	E10	J2300	I11	J2852	G8	L7504	E9	R2421	P5	X2700	N12
C2218	K11	C2814	G9	C7511	E11	J2306	D11	J3000	L8	L7505	E8	R2422	O5	X3200	N7
C2219	K12	C2815	J9	C7513	D11	J2307	C11	J3001	J7	L7515	F11	R2424	I11	**Z**	
C2220	I11	C2816	J8	C7515	F11	J2308	I11	J3002	I6	**M**		R2425	I12	Z2000	P10
C2221	I12	C2818	J7	C7516	F11	J2309	H12	J3003	L7	M2100	E13	R2430	N6	Z2001	P10
C2222	I12	C2819	J8	C7518	D10	J2310	H12	J3004	K8	**N**		R2435	L6	Z2003	P10
C2223	J10	C2820	G6	C7520	F7	J2311	I11	J3005	J8	N2300	H11	R2440	L13	Z2400	N8
C2224	K10	C2821	G7	C7521	F7	J2312	I12	J3006	J8	N2301	H12	R2441	L13	Z2401	N6
C2225	K12	C2830	G8	C7523	F7	J2313	I12	J3112	L11	N2400	O7	R2600	F5	Z6030	O9
C2226	J12	C2831	G8	C7524	D7	J2314	I12	J3113	L12	N2600	D5	R2700	M12	Z7501	F8
C2227	I11	C3000	K6	C7525	D6	J2315	H12	J3114	L12	N3200	M9	R2701	N13	Z7503	E8
C2228	J12	C3001	K6	C7562	D9	J2316	I11	J3115	L11	N6030	O10	R2801	H9	Z7504	E8
C2229	I11	C3002	K6	C7564	F10	J2401	P11	J3116	L12	N6156	O12	R2803	I9	Z7520	F7
C2230	K12	C3003	J9	**D**		J2402	Q9	J3117	L11	N7505	E10	R2804	I9		
C2231	I10	C3004	J9	D2200	J11	J2403	Q9	J3200	M9	N7520	E7	R3000	K6		
C2232	J12	C3005	K9	D2800	H7	J2404	P9	J3201	M9	**R**		R3002	I9		
C2270	J10	C3006	L9	D3000	K7	J2408	Q10	J3202	N9	R2000	O10	R3003	J7		





B		N	
B2101	A5	N1200	J8
C		N3300	M1
C1200	J8	R	
C1201	J8	R1200	J8
C1205	K8	R1201	J8
C1207	J8	R1203	K8
C2040	M6	R1204	L8
C2041	L8	R1205	L7
C2101	J8	R2401	B7
C2401	B7	R2402	B8
C2402	B7	R3300	L2
C3300	M3	R3301	L3
C3301	M3	R3304	L1
C3303	M2	R3306	L3
C3304	L3	R3307	L2
C3305	L3	R3310	M2
C3306	L1	R3312	L2
C3307	M1	R3313	M2
C3308	M2	R3314	M2
C3309	M3	R3316	M2
C3310	M2	R3317	M6
C3311	M3	R3318	M6
C3312	L2	R3319	M6
C3313	L1	R3330	M2
C3314	M3	X	
C3315	L6	X2000	M7
C3316	L6	X2010	L8
C3317	L6	X2401	A7
C3333	M3	X3300	M4
C3334	M3	Z	
C3335	N4	Z1200	J8
D		Z1201	J8
D3300	M2	Z2100	J8
L		Z2101	J8
L1203	A2		
L3301	M3		
L3303	M1		